

REMARKS

Favorable reconsideration of this application is requested in view of the foregoing amendments and the following remarks. Claims 9-10, 12-13, 17-26 and 29-40 are pending in this application. Claims 11 and 27-28 are canceled without prejudice or disclaimer.

On July 27, 2004 a telephone discussion/interview was held with the Examiner regarding this application. The courtesousness extended by the Examiner is very much appreciated. This reply sets forth in written form many of the comments presented during the interview.

Claim 9 is amended to include the limitations of claims 11, 27 and 28. Claim 12 is amended to include the limitations of claims 27 and 28.

Claims 9-11, 13 and 16-28 were rejected under 35 USC 103 as obvious over Smalley et al, WO 98/39250 in view of Resasco et al, U.S. Pat. No. 6,333,016 further in view of Thess et al, "Crystalline ropes of metallic Carbon nanotubes," Science, Vol. 273, pg 483.

The invention is not disclosed or suggested by Smalley, Resasco and/or Thess alone or in combination because these references do not disclose or suggest acquiring data from said plurality of nanorods during activating; and changing operational parameters of activating using acquired spectroscopic data to optimize said plurality of nanorods. Moreover, these references dos not disclose or suggest condensed phase conversion and growth from a condensed phase matrix material instead of from vapor. Further, Smalley actually teaches away from the invention because Smalley explicitly teaches away from ablation and, therefore, away from condensed phase conversion and growth.

With regard to claims 29 and 34, these dependent claims add specific limitations that are not disclosed or suggest by the references. Specifically, claims 29 and 34 explicitly require that the nanorods are interrelated to define a substantially random distribution of intersection angles. The loops of Smalley are piled on top of one another and are, therefore, substantially parallel to

one another in at least one of three dimension and NOT randomly distributed.

With regard to claims 31 and 37, these dependent claims add specific limitations that are not disclosed or suggested by the Smalley reference. Specifically, claims 31 and 37 explicitly require solid-state conversion and growth which is more specific than the more generic condensed phase conversion and growth of independent claims 9 and 12. As noted above, every embodiment of Smalley is vapor or gas based, and Smalley teaches away from ablation, and therefore, from condensed phase (e.g., solid-state) conversion.

With regard to claims 32 and 38, these dependent claims add specific limitations that are not disclosed or suggested by the Smalley reference. Specifically, claims 32 and 38 explicitly require that activating take place after depositing. In these embodiments, the invention deposits the matrix material and then converts and grows the matrix into a plurality of nanorods by condensed phase conversion growth. The immediate nanofiber precursor of Smalley is his vapor and it is always disclosed by Smalley to be simultaneously supplied during nanofiber growth.

With regard to claims 33 and 36, these dependent claims add specific limitations that are not disclosed or suggested by the Smalley reference. Specifically, claims 33 and 36 explicitly require placing the composition in contact with condensed phase feedstock material and annealing to continue growth of the plurality of nanorods. The positively recited method step of annealing enables the re-initiation of condensed phase conversion and growth to form longer and/or additional nanotubes. This is an important and unexpected advantageous aspect of the invention not even hinted at by Smalley.

Thus, the above separately argued dependent claims sets are each considered to be separately patentable.

Accordingly, withdrawal of this rejection is respectfully requested.

Other than as explicitly set forth above, this reply does not include acquiescence to

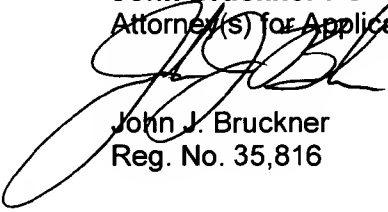
statements by the Examiner. In view of the above, all the claims are considered patentable and allowance of all the claims is respectfully requested. The Examiner is invited to telephone the undersigned (direct line 512-694-9145) for prompt action in the event any issues remain.

In accordance with 37 CFR 1.136(a) pertaining to patent application processing fees, Applicant requests an extension of time from June 30, 2004 to July 31, 2004 in which to respond to the Office Action dated March 31, 2004. A notification of extension of time is filed herewith.

The Director of the U.S. Patent and Trademark Office is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-3204 of John Bruckner PC.

Respectfully submitted,

John Bruckner PC
Attorney(s) for Applicant(s)


John J. Bruckner
Reg. No. 35,816

Dated:  30, '04

5708 Back Bay Lane
Austin, TX 78739-1723
Tel. (512) 394-0118
Fax. (512) 394-0119